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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,660	10/06/2003	Bradley J. Eldred	MICROPURE-01	4115

7590 02/05/2008

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EXAMINER	
CHORBAJI, MONZER R	
ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
02/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/679,660	ELDRED, BRADLEY J.	
	Examiner	Art Unit	
	MONZER R. CHORBAJI	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *67-74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *67-74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This non-final action is in response to the RCE/Amendment received on 10/30/07

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 67, 70-71 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahya et al (U.S.P.N. 5,217,626) in view of Kosti (U.S.P.N. 4,229,410) and further in view of Choi (Bulletin of the Korean Fisheries Society) as further exemplified by Perrier et al (U.S.P.N. 6,132,750).

Regarding claim 67, Yahya discloses water disinfecting composition (col.1, lines 13-15) that includes copper ions at a concentration value of about 0.4 mg/L (col.4, lines 18-19 where 400 micro-g/L equals 0.4 mg/L) and silver ions at a concentration value of about 0.09 mg/L (col.4, lines 4-5 where 90 micro-g/L equals 0.09 mg/L) that results in improved microorganism inactivation in water systems (col.3, lines 17-19). In addition,

Yahya describes dissolving solid components of the composition, such as copper sulfate, silver chloride, and potassium permanganate into water (col.4, lines 27-43 where the above compounds are in solid forms). As to the ionic ration range of copper ions to silver ions, Yahya discloses copper ion concentration values of up to 900 micro-g/L (0.9 mg/L) and silver ion concentration values of up to 90 micro-g/L (0.09 mg/L) as such the ionic ratio of copper ions (900 micro-g/L) to silver ions (90 micro-g/L) is 10:1 (col.3, lines 24-29). As to the transitional phrase "consisting essentially of", it only limits the scope of the claim to the specified components and those compounds that do not materially affect the basic and novel properties of the claimed composition. The specification does not exclude the inclusion of other materials as long as the claimed composition properties are not materially affected, i.e., destroyed (see MPEP 2111.03). Yahya does not specifically teach including components such as grapefruit seed extract or glycerin into the disinfecting composition. Kosti discloses a process for disinfecting water (col.11, line 36) where he uses a solid disinfecting element (figure 1:10(a) or 10(b)) that includes, among other components, bacteriostatic agents (col.4, lines 40-44 such as copper and silver ions) and plasticizers such as glycerin (col.5, line 28) where the concentration range is from 0.0001% to 75% of the weight of the composition (col.5, lines 50-52), in order to produce a disinfecting solid element that is inexpensive (col.1, lines 38-39). As to the glycerin concentration value, i.e., multiplying 0.01 (1%) with 10,000 equals 100 ppm that is equal to 100 mg/L. It would have been obvious to one of ordinary skill in the art at the time of the invention to further provide the composition in

Yahya with glycerin in order to produce a disinfecting solid element that is inexpensive (col.1, lines 38-39).

Kosti does not specifically describe using grapefruit seed extract. Choi teaches that grapefruit seed extract at a concentration range of 50 ppm (ppm = mg/L) completely inhibits growth of various pathogenic microorganisms (abstract, lines 6-8). It would have been obvious to one of ordinary in the art at the time of the invention to further provide the composition of Yahya with grapefruit seed extract, because it has strong antimicrobial activity as described by Choi (abstract, lines 1-5).

Perrier discloses small-sized particles where the walls of the particles include cross-linked proteins and cross-linked polysaccharides (col.1, lines 7-8). In certain embodiment, the particles are added to water for decontamination purposes (col.7, lines 58-60) where the surfaces of the particles are loaded with copper or silver compounds that are released into the medium (col.7, lines 35-40) or where the surfaces further include plant protein extracts (col.13, lines 1-13), or the surfaces include plant extracts in general (col.14, lines 48-50), in order to decontaminate water (col.7, line 60) where the composition is little costly and is usable on industrial scale (col.10, lines 62-63). Perrier reference is provided as an example to show that it is known to apply plant extracts to aqueous environments.

Regarding claim 70, Yahya discloses water disinfecting composition (col.1, lines 13-15) that includes copper ions at a concentration value of about 0.4 mg/L (col.4, lines 18-19 where 400 micro-g/L equals 0.4 mg/L) and silver ions at a concentration value of about 0.09 mg/L (col.4, lines 4-5 where 90 micro-g/L equals 0.09 mg/L) that results in

improved microorganism inactivation in water systems (col.3, lines 17-19). In addition, Yahya describes dissolving solid components of the composition, such as copper sulfate, silver chloride, and potassium permanganate into water (col.4, lines 27-43 where the above compounds are in solid forms). As to the ionic ration range of copper ions to silver ions, Yahya discloses copper ion concentration values of up to 900 micro-g/L (0.9 mg/L) and silver ion concentration values of up to 90 micro-g/L (0.09 mg/L) as such the ionic ratio of copper ions (900 micro-g/L) to silver ions (90 micro-g/L) is 10:1 (col.3, lines 24-29). As to the transitional phrase "consisting essentially of", it only limits the scope of the claim to the specified components and those compounds that do not materially affect the basic and novel properties of the claimed composition. The specification does not exclude the inclusion of other materials as long as the claimed composition properties are not materially affected, i.e., destroyed (see MPEP 2111.03). Yahya does not specifically teach including components such as grapefruit seed extract or glycerin into the disinfecting composition. Kosti discloses a process for disinfecting water (col.11, line 36) where he uses a solid disinfecting element (figure 1:10(a) or 10(b)) that includes, among other components, bacteriostatic agents (col.4, lines 40-44 such as copper and silver ions) and plasticizers such as glycerin (col.5, line 28) where the concentration range is from 0.0001% to 75% of the weight of the composition (col.5, lines 50-52), in order to produce a disinfecting solid element that is inexpensive (col.1, lines 38-39). As to the glycerin concentration value, i.e., multiplying 0.01 (1%) with 10,000 equals 100 ppm that is equal to 100 mg/L. It would have been obvious to one of ordinary skill in the art at the time of the invention to further provide the composition in

Yahya with glycerin in order to produce a disinfecting solid element that is inexpensive (col.1, lines 38-39).

Kosti does not specifically describe using grapefruit seed extract. Choi teaches that grapefruit seed extract at a concentration range of 50 ppm (ppm = mg/L) completely inhibits growth of various pathogenic microorganisms (abstract, lines 6-8). It would have been obvious to one of ordinary in the art at the time of the invention to further provide the composition of Yahya with grapefruit seed extract, because it has strong antimicrobial activity as explained by Choi (abstract, lines 1-5) and to further add it at a concentration of 50 mg/L, since at such a concentration value the growth of many harmful microorganisms is inhibited as further explained by Choi (abstract, lines 5-9).

Perrier discloses small-sized particles where the walls of the particles include cross-linked proteins and cross-linked polysaccharides (col.1, lines 7-8). In certain embodiment, the particles are added to water for decontamination purposes (col.7, lines 58-60) where the surfaces of the particles are loaded with copper or silver compounds that are released into the medium (col.7, lines 35-40) or where the surfaces further include plant protein extracts (col.13, lines 1-13), or the surfaces include plant extracts in general (col.14, lines 48-50), in order to decontaminate water (col.7, line 60) where the composition is little costly and is usable on industrial scale (col.10, lines 62-63). Perrier reference is provided as an example to show that it is known to apply plant extracts to aqueous environments.

Regarding claims 71 and 74, Yahya provides a water disinfecting composition (col.1, lines 13-15).

4. Claims 68 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahya et al (U.S.P.N. 5,217,626) in view of Choi (Bulletin of the Korean Fisheries Society) as further exemplified by Perrier et al (U.S.P.N. 6,132,750).

Regarding claim 68, Yahya discloses water disinfecting composition (col.1, lines 13-15) that includes copper ions at a concentration value of about 0.4 mg/L (col.4, lines 18-19 where 400 micro-g/L equals 0.4 mg/L) and silver ions at a concentration value of about 0.09 mg/L (col.4, lines 4-5 where 90 micro-g/L equals 0.09 mg/L) that results in improved microorganism inactivation in water systems (col.3, lines 17-19). In addition, Yahya describes dissolving solid components of the composition, such as copper sulfate, silver chloride, and potassium permanganate into water (col.4, lines 27-43 where the above compounds are in solid forms). As to the ionic ration range of copper ions to silver ions, Yahya discloses copper ion concentration values of up to 900 micro-g/L (0.9 mg/L) and silver ion concentration values of up to 90 micro-g/L (0.09 mg/L) as such the ionic ratio of copper ions (900 micro-g/L) to silver ions (90 micro-g/L) is 10:1 (col.3, lines 24-29). As to the transitional phrase "consisting essentially of", it only limits the scope of the claim to the specified components and those compounds that do not materially affect the basic and novel properties of the claimed composition. The specification does not exclude the inclusion of other materials as long as the claimed composition properties are not materially affected, i.e., destroyed (see MPEP 2111.03). Yahya does not specifically teach including the component grapefruit seed extract into the disinfecting composition. Choi teaches that grapefruit seed extract at a concentration range of 50 ppm (ppm = mg/L) completely inhibits growth of various

pathogenic microorganisms (abstract, lines 6-8). It would have been obvious to one of ordinary in the art at the time of the invention to further provide the composition of Yahya with grapefruit seed extract, because it has strong antimicrobial activity as explained by Choi (abstract, lines 1-5) and to further add it at a concentration of 50 mg/L, since at such a concentration value the growth of many harmful microorganisms is inhibited as further explained by Choi (abstract, lines 5-9).

Perrier discloses small-sized particles where the walls of the particles include cross-linked proteins and cross-linked polysaccharides (col.1, lines 7-8). In certain embodiment, the particles are added to water for decontamination purposes (col.7, lines 58-60) where the surfaces of the particles are loaded with copper or silver compounds that are released into the medium (col.7, lines 35-40) or where the surfaces further include plant protein extracts (col.13, lines 1-13), or the surfaces include plant extracts in general (col.14, lines 48-50), in order to decontaminate water (col.7, line 60) where the composition is little costly and is usable on industrial scale (col.10, lines 62-63). Perrier reference is provided as an example to show that it is known to apply plant extracts to aqueous environments.

Regarding claim 72, Yahya provides a water disinfecting composition (col.1, lines 13-15).

5. Claims 69 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahya et al (U.S.P.N. 5,217,626) in view of Kosti (U.S.P.N. 4,229,410).

Regarding claim 69, Yahya discloses water disinfecting composition (col.1, lines 13-15) that includes copper ions at a concentration value of about 0.4 mg/L (col.4, lines 18-19 where 400 micro-g/L equals 0.4 mg/L) and silver ions at a concentration value of about 0.09 mg/L (col.4, lines 4-5 where 90 micro-g/L equals 0.09 mg/L) that results in improved microorganism inactivation in water systems (col.3, lines 17-19). In addition, Yahya describes dissolving solid components of the composition, such as copper sulfate, silver chloride, and potassium permanganate into water (col.4, lines 27-43 where the above compounds are in solid forms). As to the ionic ration range of copper ions to silver ions, Yahya discloses copper ion concentration values of up to 900 micro-g/L (0.9 mg/L) and silver ion concentration values of up to 90 micro-g/L (0.09 mg/L) as such the ionic ratio of copper ions (900 micro-g/L) to silver ions (90 micro-g/L) is 10:1 (col.3, lines 24-29). As to the transitional phrase "consisting essentially of", it only limits the scope of the claim to the specified components and those compounds that do not materially affect the basic and novel properties of the claimed composition. The specification does not exclude the inclusion of other materials as long as the claimed composition properties are not materially affected, i.e., destroyed (see MPEP 2111.03). Yahya does not specifically teach including glycerin into the disinfecting composition. Kosti discloses a process for disinfecting water (col.11, line 36) where he uses a solid disinfecting element (figure 1:10(a) or 10(b)) that includes, among other components, bacteriostatic agents (col.4, lines 40-44 such as copper and silver ions) and plasticizers such as glycerin (col.5, line 28) where the concentration range is from 0.0001% to 75% of the weight of the composition (col.5, lines 50-52), in order to produce a disinfecting

solid element that is inexpensive (col.1, lines 38-39). As to the glycerin concentration value, i.e., multiplying 0.01 (1%) with 10,000 equals 100 ppm that is equal to 100 mg/L. It would have been obvious to one of ordinary skill in the art at the time of the invention to further provide the composition in Yahya with glycerin in order to produce a disinfecting solid element that is inexpensive (col.1, lines 38-39).

Regarding claim 73, Yahya provides a water disinfecting composition (col.1, lines 13-15).

Response to Arguments

6. Applicant's arguments with respect to claims 67-74 have been considered but are moot in view of the new ground(s) of rejection.

On page 4 of the Remarks section, Applicant argues that none of the cited references teach or suggest the ratio of copper to silver ion ratios as required by the instant amended claims.

Yahya's water disinfection composition includes copper ions at a concentration value of about 0.4 mg/L (col.4, lines 18-19 where 400 micro-g/L equals 0.4 mg/L) and silver ions at a concentration value of about 0.09 mg/L (col.4, lines 4-5 where 90 micro-g/L equals 0.09 mg/L) that results in improved microorganism inactivation in water systems (col.3, lines 17-19). In addition, Yahya describes dissolving solid components of the composition, such as copper sulfate, silver chloride, and potassium permanganate into water (col.4, lines 27-43 where the above compounds are in solid forms). As to the ionic ration range of copper ions to silver ions, Yahya discloses copper ion concentration values of up to 900 micro-g/L (0.9 mg/L) and silver ion concentration

values of up to 90 micro-g/L (0.09 mg/L) as such the ionic ratio of copper ions (900 micro-g/L) to silver ions (90 micro-g/L) is 10:1 (col.3, lines 24-29).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571)272-1271. The examiner can normally be reached on M-F 9:00-5:30.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRC

GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER